

# **PORTAL DESIGN FOR STENT FOR TREATING BIFURCATED VESSELS**

## **ABSTRACT OF THE DISCLOSURE**

**[0069]** A stent pattern includes an improved portal region for repairing a main vessel and a side branch vessel forming a bifurcation. More particularly, the stent has rings aligned along a common longitudinal axis that are connected by links, where the stent has a proximal section, a distal section, and a central section (portal region). The number of rings and the expanded diameter of the sections are varied to create a "trap door" capable of expanding to a slightly larger diameter than the proximal section and the distal section of the stent. The configuration of the stent pattern of the portal region prevents the occurrence of portal overlap of immediately adjacent rings into the portal region during stent deployment. The stent is implanted at a bifurcation so that the proximal section and the distal section are in the main vessel, and the central section contacts at least a portion of the opening to the side branch vessel. A second stent can be implanted in the side branch vessel and abut the expanded central section to provide full coverage of the bifurcated area in the main vessel and the side branch vessel.